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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,607	09/28/2004	Thomas E Frankel	2004-309-SSI	5606
36583	7590	10/25/2007		
STAMFORD SCIENTIFIC INTERNATIONAL, INC.			EXAMINER	
4 TUCKER DRIVE			GODFREY, KEITH JOSEPH	
POUGHKEEPSIE, NY 12603			ART UNIT	PAPER NUMBER
			1791	
			MAIL DATE	DELIVERY MODE
			10/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/711,607	FRANKEL ET AL.	
	Examiner	Art Unit	
	Keith J. Godfrey	1732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 19-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 12-16, 19-21, 23-29, and 31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0155690) in view of Ongena (US 4668460).

**As to claims 12 and 24**, Park (US 2005/0155690), hereinafter "Park", teaches a method of bonding fluorocarbon elastomers including:

- pre-heating an adhesive coated metal housing (*substrate* = silane based adhesive) in a mold at 100-250°C. (paragraph [0121]).
- applying a partially cured (*uncured*) dynamically vulcanized fluoroelastomer on a base material (*substrate*) wherein the base layer and fluoroelastomer are bonded together at 120-200°C to form an intermediate article (Abstract and paragraph [0121]). Examiner is interpreting *uncured*, as disclosed in the instant specification to mean, "not completely cured". Additionally Examiner submits this step is an intermediate cure step.
- completing the curing and vulcanization (*cross-linking*) when the rubber is in contact with the substrate and removed from the mold in an oven (Abstract and paragraph [0122]).

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Park does not expressly teach the final curing temperature, however Park does teach that the suitable range of vulcanization temperature is from about the melting temperature of the thermoplastic material (typically about 120°C) to about 300°C (paragraph [0093]). Hence it is submitted that the vulcanization temperature is a result-effective variable. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use routine experimentation to determine an optimum vulcanization temperature for the fluoroelastomer material because Park specifically teaches the vulcanization temperature depends on the melting point of the fluoroelastomer thermoplastic, and as such teaching the vulcanization temperature is a result-effective variable.

Park does not expressly teach that the pre-heated substrate is at an incomplete state of cure.

Onegena (US 4668460), hereinafter "Onegena", teaches a method of molding and coating a substrate in a mold including:

- partially curing the substrate in a mold to the point that the substrate is receptive to a coating, or more, curing to an incomplete state of cure (Abstract col. 2, lines 28-36);
- coating the pre-cured substrate with a film thickness of at least 0.1 mil = 0.00254 mm (Abstract and col. 65 lines 26-32);
- curing the coated substrate (Abstract).

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Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the pre-curing coating conditions of Onegena with the method of Park because the partial curing allows reduced cycle time (Onegena col. 2, lines 47-53). Because both of the references are concerned with a similar technical field, namely that of coating a substrate, one would have a reasonable expectation of success from the combination.

**As to claims 13-14 and 25-26**, Park (US 2005/0155690), hereinafter "Park", teaches the use of copolymers such as tetrafluoroethylene with olefins such as ethylene and propylene (paragraph [0039]).

**As to claims 15 and 27**, Park teaches that the substrate may include a non-fluorinated adhesive (*polymer*) (paragraph [0108]).

**As to claims 16 and 28**, Park teaches a polyurethane polymer substrate (paragraph [0138]).

**As to claims 19, 23, 31, and 33**, Park teaches the fluoropolymer tetrafluoroethylene (paragraph [0039]). Tetrafluoroethylene is also a fluoroplastic.

**As to claims 20 and 32**, Park teaches tetrafluoroethylene which comprises an ethylenically based monomer segment (paragraph [0039]).

**As to claims 21 and 29**, Park teaches the use of thermoplastic elastomer (paragraph [0138]).

**Claim 22 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0155690) in view of Ongena (US 4668460), as applied above, and further in view of admitted prior art (Admission).

**As to claims 22 and 30**, Park does not expressly teach that the fluoroelastomer materials are selected from a bubble diffusing membrane group, however admission discloses that conventional application of for this technology is used in the diffused aeration business (paragraph 7 of the instant application). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use fluoroelastomer materials from a bubble diffusing membrane group because admission specifically teaches the applicability of such materials to aeration.

### ***Response to Arguments***

Applicant's arguments, see page 2, filed 06/18/2007, with respect to the rejection(s) of claim(s) 12-16,19 and 20 under U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Park (US 2005/0155690) in view of Ongena (US 4668460).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith J. Godfrey whose telephone number is 571-272-6391. The examiner can normally be reached on 8:00-5:00 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kjg

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER